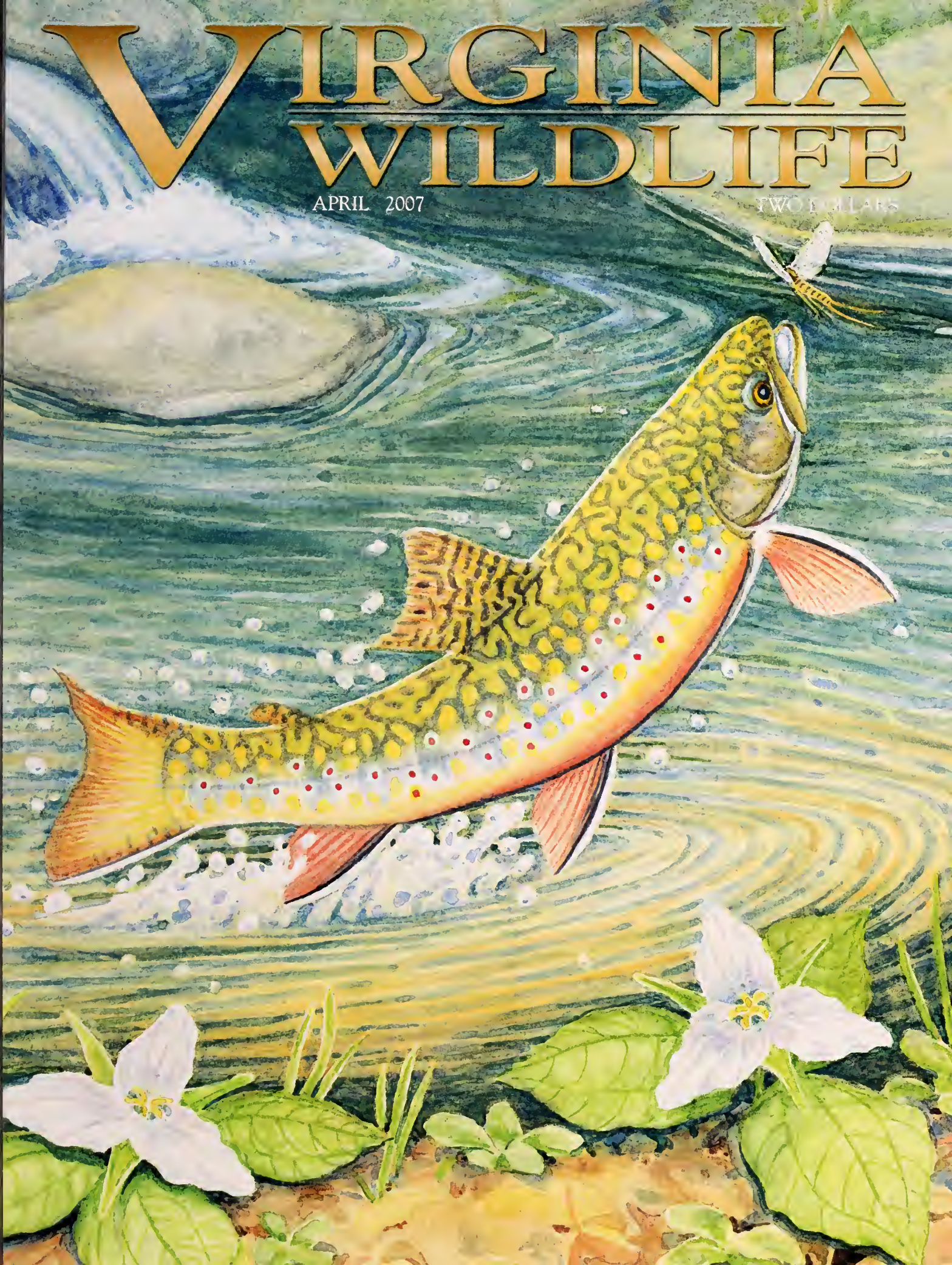
VIRGINIA WILDLIFE

APRIL 2007

TWO DOLLARS



J. Carlton Courter, III

Director

Since 1916, the Virginia Department of Game and Inland Fisheries has been serving the outdoor public. As fishing picks up, I am reminded that much of the work of this Department includes raising and stocking millions of cold and warm water fish from our hatcheries and fish culture stations. Trout, largemouth bass, and walleye are just a few of the species awaiting the more than 700,000 avid anglers who are hooked on fishing in Virginia.

Not only does the Department stock fish, but it also owns and manages 37 public fishing lakes and oversees the fisheries in every major public body of freshwater in Virginia. If it sounds like a big job, it is. It starts with the Department's 176,000 acres of lakes and ponds, and includes managing 222 public boat launching sites, 25,000 miles of fishable warm water streams and rivers, and over 2,800 miles of fantastic trout fishing waters.

As the population of our state continues to grow, so does the demand for quality outdoor experiences. Much of the funding the Department relies on to deliver these opportunities is made possible by the purchase of your hunting and fishing licenses and through special state and federal funds. In addition, many individuals and organizations contribute much needed support as volunteers and through donations.

Recently, the Department entered into a partnership with Franklin County to develop a fully-accessible fishing pier at the Smith Mountain Lake Community Park. This partnership was made possible, in part, by $80,000 from the Federal Aid in Sport Fish Restoration Fund and matching contributions from the locality. Seeing the need for greater public access to Smith Mountain Lake, Franklin County provided $45,000 to match the Sport Fish Restoration funds. This match was made possible through volunteer donations of time and labor by local corporations. The 100-foot-long pier will be the only public accessible fishing pier on the southern side of Smith Mountain Lake. The pier, located along the main channel of the Roanoke River, will allow anglers to pursue striped bass, largemouth bass, catfish and panfish.

The Department is always looking for ways to join with public and private organizations to improve fishing opportunities within the Old Dominion. The Federal Aid in Sport Fish Restoration Fund is just one of many ways to maximize resources and to benefit anglers. It is also an outstanding example of a "users pay - users benefit" program. In this case, anglers are the users. Every time they "pay" by buying fishing tackle or motorboat fuel, federal taxes from these purchases are deposited in this special Federal fund. Each year these funds are apportioned back to state fishery agencies for sport fishery restoration, boating access, and fishing facilities projects, thereby benefiting the user. This new, fully-accessible pier on Smith Mountain Lake will be a significant addition to the long list of the Department's partnerships that create improved shoreline fishing opportunities.

If you are looking for a quality outdoor experience this summer, stop by the new Smith Mountain Lake Community Park with its new fully-accessible fishing pier. It's just one of the many great outdoor adventures waiting for you. And, if you haven't done so, I encourage you to purchase a fishing license. You get the fun of fishing plus the satisfaction of knowing you are a partner in securing the future of Virginia's wildlife and natural resources.

Mission Statement

To manage Virginia's wildlife and inland fish to maintain optimum populations of all species to serve the needs of the Commonwealth; to provide opportunity for all to enjoy wildlife, inland fish, boating and related outdoor recreation; to promote safety for persons and property in connection with boating, hunting and fishing.

Dedicated to the Conservation of Virginia's Wildlife and Natural Resources

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About the cover: "Appalachian Spring" is an original watercolor by Michael Simon. A native brook trout leaps for a Quill Gordon *(epeorus pleuralis)*, the first major hatch of the season, as brilliant trillium *(trillium ovatum)* announce the arrival of spring. For more information about this watercolor or other artworks, please contact the artist at www.michaelsimontrout.com or call him at 804-744-6317.
Back cover: Red-winged blackbird
©Ken Conger

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VIRGINIA WILDLIFE

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Painting

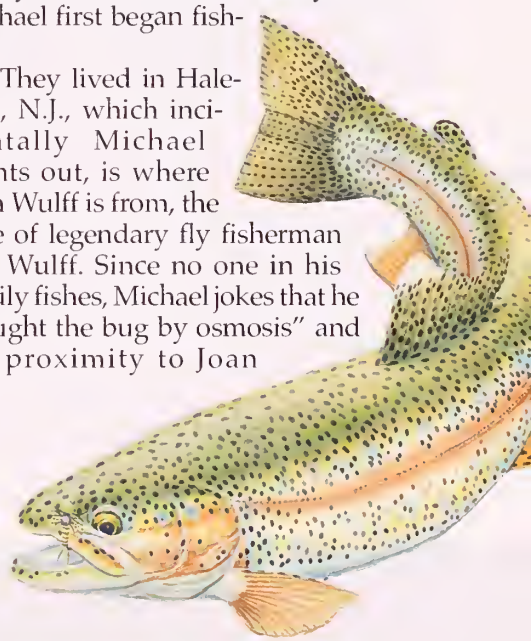
©Dwight Dyke

If you have ever caught a freshwater citation in Virginia, you already know Michael, or at least his artwork. A print of the species you caught comes with each citation certificate. Michael painted the original. He is a realistic watercolor painter who specializes in painting fish, his favorite being trout, brook trout in particular.

Michael was born in Greenwich Village, NY in 1946 while his father attended NYU on the GI bill. He first moved to Virginia when he was three and his father took a job teaching Art at Virginia State University in Petersburg, but within a few years his family had moved back up north to New Jersey. It was in New Jersey that Michael first began fishing.

They lived in Haledon, N.J., which incidentally Michael points out, is where Joan Wulff is from, the wife of legendary fly fisherman Lee Wulff. Since no one in his family fishes, Michael jokes that he "caught the bug by osmosis" and his proximity to Joan

Brookies



The colorful world of wildlife artist, writer and photographer Michael Simon.

by Tee Clarkson

Mental health. That's what I would have called my reason for taking the day off work if anyone had asked, but no one did. I relish the opportunity to fish with someone I have never fished with before, especially when the person has offered to take me to one of his favorite fishing holes. Besides, it had been far too many years since I had caught a native Virginia brook trout.

On this late October morning, Michael Simon and I are driving west against the morning traffic flowing into Richmond from the suburbs. The trees turn more colorful the further west we go. By the time we reach Zion's Crossroads, there is barely any green left. Out the window the leaves are a thrashing sea of yellows, oranges and reds. The wind is howling. It is hard to beat a day spent outdoors in autumn.

Opposite page: The artist applies watercolor to a brook trout pencil drawing in his home studio in Midlothian. Far left: a large brook trout fights against the pull of an old-fashioned, three fly dropper rig. The patterns, some of which are still popular today are (top to bottom): Royal Coachman, Montreal and Parmachene Belle. The orange-bodied fly, made with a feather from a mallard flank, is called Queen of Waters. Above left: The artist prospects for colorful fall brookies on the lovely Rose River. Above: This rainbow trout, hooked on a bead head stonefly nymph, appeared on the cover of Virginia Wildlife's 2004 Trout Guide. Below the photo is Simon's watercolor rendering of a Golden Stonefly nymph, a very effective pattern in most of Virginia's trout and bass streams.

Wulff. He recalls the first time he ever saw someone fly fishing.

"It was on opening day in New Jersey," Michael recollects. "I am grateful to my mother for driving me out to fish on those cold, rainy April mornings. She was an English teacher, so she used to sit in the car and grade papers with the heater on, and I would be out there fishing." Michael takes another sip of coffee. I see him forming the memory in his mind. "So there I was on opening day. I was drowning worms in Diamond Mill pond in New Jersey. I was probably 9 years old. I hadn't had the first bite, when I saw this guy wading down the edge of the stream that empties into the pond. He was casting a bamboo fly rod slowly and rhythmically, allowing his fly to settle after several false casts. He was fishing with a traditional wet fly technique, laying his fly at an angle with the current and letting it swing across. He must have caught five or six nice trout in a row right in front of me while my worm was sitting there untouched. I was impressed with the relaxed and graceful way that he fished, and also by the fish he was catching. I knew at that moment that I wanted to learn how to fly fish."

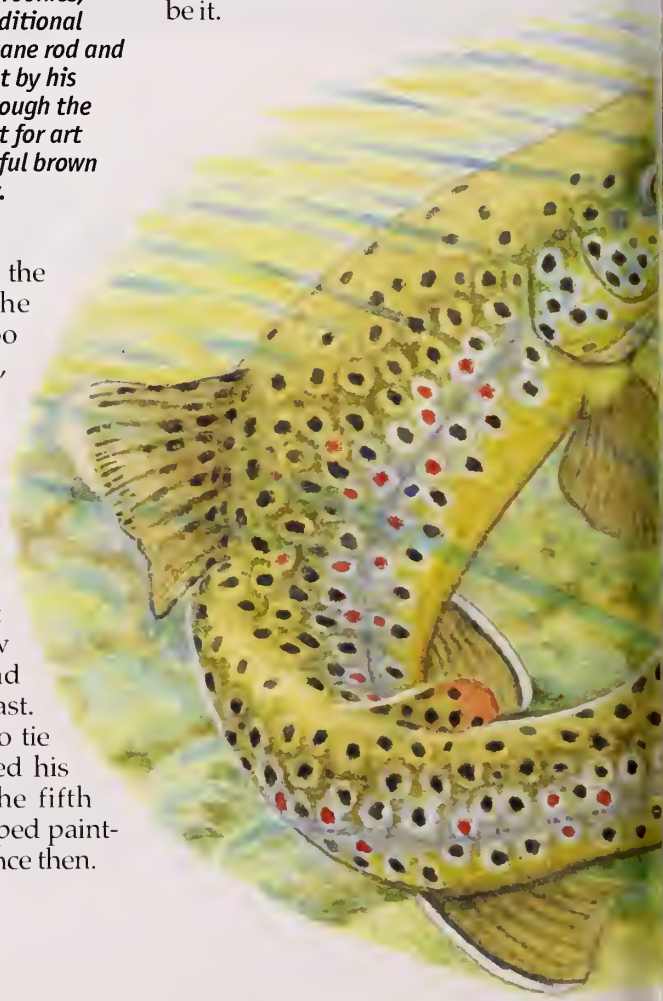
In another 30 minutes we veer off the main road and begin winding and weaving our way past cow pastures and cornfields toward the base of the mountains. Still in the valley, we cross over the stream we will fish. Too warm for trout down here, the water holds only panfish and bass. We head further up.

Michael read every book about fly fishing he could get his hands on after seeing the man at Diamond Mill pond that cold, spring day in New Jersey. He got a rod and taught himself how to cast. He taught himself how to tie flies. That year he painted his first trout. He was in the fifth grade. He has never stopped painting trout in the 50 years since then.

Above: While living in Montana, Simon became interested in the brook trout's western cousin, the bull trout. Like the brookie, this char thrives only in the most pristine, cold headwaters of its original range. This watercolor depicts a female "cutting a redd" while her mate defends their spawning site. Below left: Selecting a colorful fly for late season brookies, Simon enjoys fishing with traditional tackle. Both the Wm. Harms cane rod and the Ted Godfrey reel were built by his friends and were acquired through the time honored tradition of "Art for art barter." Center: A large, colorful brown trout sips a tiny spent mayfly.

When the road turns to gravel and the grade becomes steeper, I know we must be getting close to the brook trout water. We keep heading up, a mile, maybe a mile-and-half. To my right I can see the stream cascading down a small ravine. This must be it.

©Dwight Dyke



"Trout have always been my first love as a fishing object and an art subject," Michael says, slowing the car and pulling into a small turnout on the side of the road. "Brook trout are my favorite."

Within a few minutes we are clad in waders and warm clothes. The temperature has dropped a good 20 degrees since we left Richmond. We walk side by side up a gravel road, not talking, just looking around. The leaves are all yellow here, a golden canopy still whipping in the strong wind. After five minutes walking, neither of us can wait any longer, and we take the first steep path down to the creek, slipping and sliding, holding our rods over our heads and bracing ourselves with uphill arms.

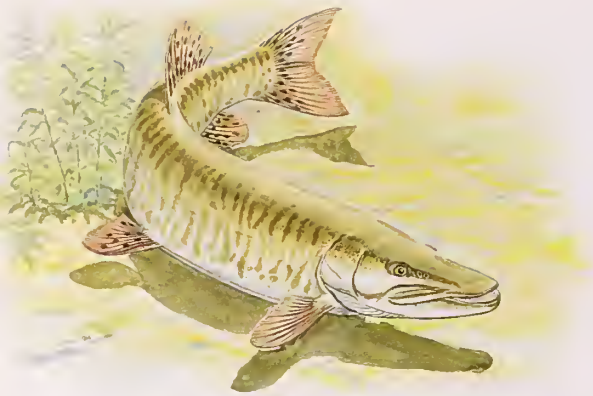
I get there first. Immediately I unhook my fly and drop it into a small pool. In a moment Michael charges by.

"Fishing already?" He laughs. "This is just a side channel. The main part of the creek is over this little island."

I hook my fly back on my rod and follow Michael over downed logs and through thick brush. Bursting through the laurels, I find myself staring into a long, deep pool with one large boulder in the middle. Michael is already making his first cast.

Michael's fishing resumé is an odd one to say the least. He has caught fish from the Catskills to Cairo and painted each species. When he was 15, his father took a job as a Cultural Attaché which took Michael and the family overseas for several years before he returned to attend college at the University of Colorado in Boulder. "The only bad thing about living in Cairo," he says, "was

Above: A pair of Westslope cutthroat trout feed on pteronarcis stoneflies on the surface and below. This watercolor was commissioned by American Wildlands, a Bozeman, MT conservation organization, to raise awareness of the endangered cutthroat which has historically coexisted with the bull trout in the Northern Rockies. Below: "Fin and Feather," a 20-piece stoneware dining set, was produced by The Essex Collection utilizing watercolor designs of trout, flies and feathers by Michael Simon.



Citation Fish Program

A sampling of the various species Simon illustrated for Virginia's Citation Fish Program. Top to bottom: Tiger muskellunge, bowfin and smallmouth bass. The bowfin was painted from a live specimen, which the good people at Ed Allen's On the Chickahominy kept alive in a tank for the artist to photograph and paint.

there weren't any trout. The nearest trout were in Morocco and Lebanon. I did my research before we went over there." He laughs. "I hoped we would get to one of those places on a vacation but we never did."

Michael does have a rather unique trout fishing experience that falls well outside anything I have ever heard. His father was transferred to Kabul, Afghanistan following their stay in Cairo. It was in Afghanistan that Hek Klappert, a political officer who worked with his father, took him to fish the Panjshir River for trout: "I remember we caught a lot of nice browns that day," Michael says, then goes on to point out, "this is the same Panjshir River where Massoud, the Afghan leader who fought against the Taliban, was killed by al-Qaeda a few years ago. He was called the Lion of the Panjshir."

Michael's first cast lands softly, 5 feet short of the tail end of the pool and drifts slowly along the surface, untouched. He moves the next cast up a few feet, and again it drifts through the pool. Several more casts yield nothing. I am looking forward to the current pulling around the boulder and the deep water behind it. I know he must be looking there too, and I admire his patience to work the entire pool slowly. Just two more casts and he has made it. His fly lands softly in the current beside the rock and dances momentarily on the surface in the wind before disappearing in the mouth of a 7-inch brook trout. Michael plays him gingerly on the light bamboo rod. In a short time, the fish squirms in the palm of his hand. We both stare down at it. It has been 15 years since I have seen one of these native brook trout. I am still baffled at their beauty. The fish slides slowly out of Michael's hand and vanishes back into the current.

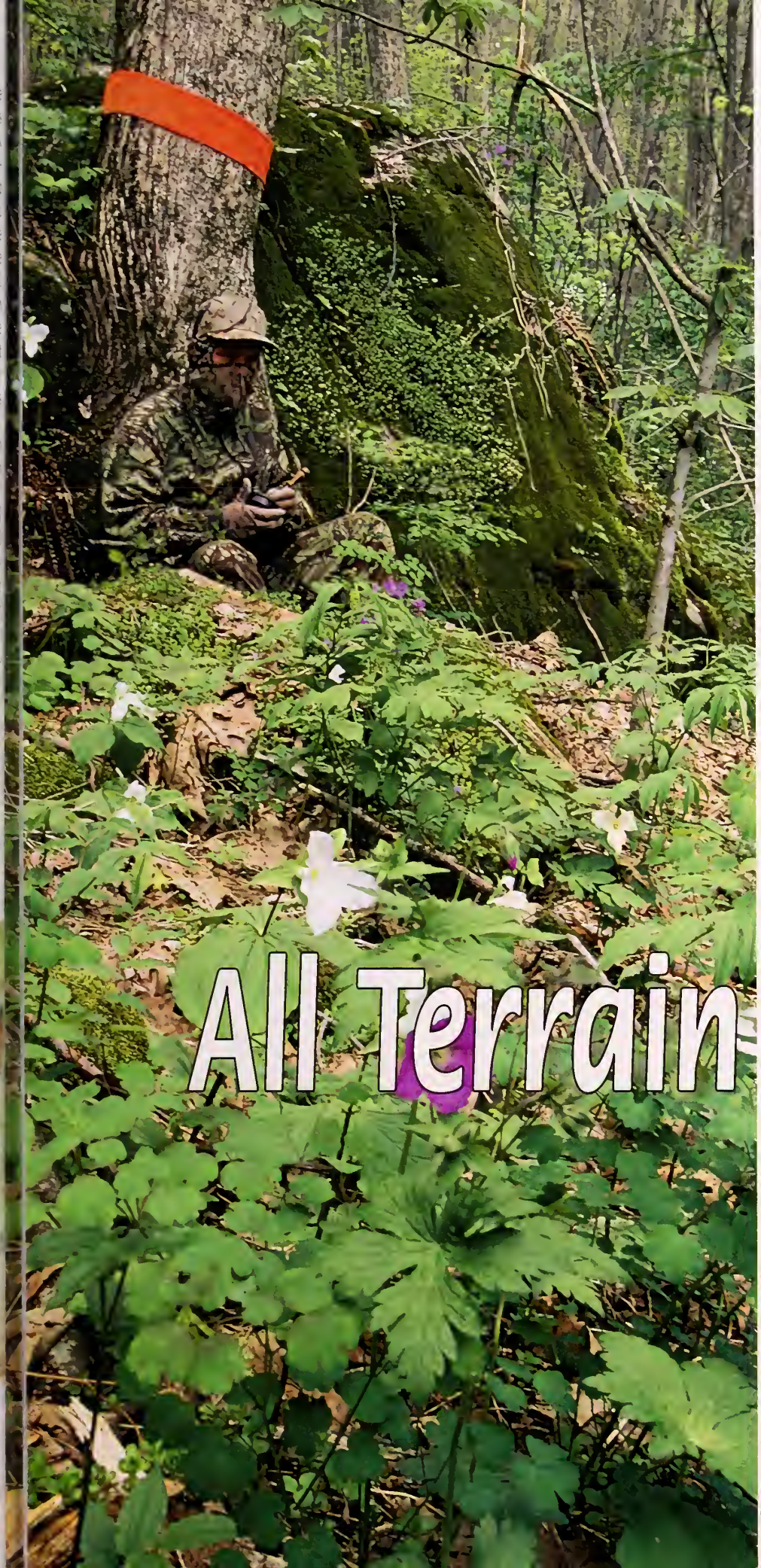
"They're the only fish that live in freshwater that have the color of some of the saltwater species." Michael says, "I guess that's why I like to paint them the most." Michael dries his hand on his vest and hooks his fly to a guide on his rod, pointing to another long, deep pool ahead of us. "Now it's your turn," he says. □

Tee Clarkson is an English teacher and in his spare time runs Virginia Fishing Adventures, a fishing camp for kids. For more information, contact Tee at: tsclarkson@virginiafishingadventures.com.

More Information

To view some of Michael Simons artwork visit: www.michaelsimontrout.com

A native Afghan brown trout displayed on a Turkmen khorjin (saddle bag) was recently painted from a still bright memory of an angling experience in an exotic land over 40 years ago.



©Dwight Dyke

All Terrain Gobblers

Experienced turkey hunters who opt to take the path less traveled will often find that it leads them down the road to success.

by Bruce Ingram

Every April and May, Virginia's spring gobbler brigade will roam ridge tops in the Mountain region, ramble through the rolling hill country of the Piedmont, and slog through swamps in Tidewater. Each one of the Old Dominion's major terrain types offers its own peculiar challenges. Here, then, is a formula for successfully hunting these three regions from two Virginia Department of Game and Inland Fisheries (VDGIF) biologists, Dave Steffen (forest wildlife program manager) and Gary Norman (turkey/grouse project leader) who are not only actively involved with managing the state's flock but are also hardcore turkey hunters themselves.

Land Use Influence

Steffen says that major differences exist in the three regions concerning the effects of land use on turkey movements.

"If you are in Tidewater, you had better know where the fence lines, crop fields, and boundary markers are," he says. "This is an area where there is little public land, lots of small farms, and crops such as soybeans, peanuts and to-

©Bruce Ingram

Dave Steffen, wildlife biologist and avid hunter, employs a crow call to generate a shock gobble at a listening post in the mountains of Craig County.

bacco. Peanuts are especially important crops in the southeast in the Suffolk and Southampton County area, and pine plantations are found throughout the region.

"A hunter can be calling in the flatlands, the gobbler will be answering, and all of a sudden the bird just stops coming in. That may be because the tom has come to a fencerow or the edge of a field.

In another scenario, the hunter may be the one who has to "stop coming" says Steffen. That's because in a region of many 80-acre farms, a sportsman will have to forego chasing a gobbler onto another property because the hunter doesn't have permission to be there. Or a swamp or slough will block a hunter's progress.

Conversely, in the Mountain region, the land use situation is entirely different. Steffen says that although a hunter afield in the vast acreage of the 1.8 million-acre George Washington and Jefferson National Forest still obviously has to respect private land boundaries, he can nevertheless find plenty of public land that gives him the proverbial "elbow room" and that will enable him to truly be miles away from a property boundary.

In the Piedmont, as is true so often, a mix of Mountain and Tidewater type land exists says Steffen. This is a region of 2,000 to 5,000-acre wildlife management areas, 50-to-100-acre farms in rolling hill country, and scattered clearcuts that are typically smaller than those in the east. Here, the rivers that flow out of the mountains, or the creeks that originate here, are wider and deeper than those in the highlands. And these waterways can stop the approach of a gobbler.

Terrain Features

"In the Mountain and Piedmont regions of Virginia, the conventional wisdom has always been that hunters should climb above the turkeys because it is less difficult to call a bird uphill than downhill," says Steffen. "I think this is definitely one case where the conventional wisdom is correct much of the time."

While afield in these two regions, before dawn I like to move to what is often called a listening post," that is, a high area where I can hear gobblers sounding off from a number of different ridges. Afterwards when hunters hear a bird, Steffen adds that they can then amble to finger ridges and attempt to call a bird uphill. The problem is, however, that a gobbler may have already flown down to an adjacent or, worse, an opposite ridge.

"A gobbler on an opposite ridge may be only several hundred yards away, not a very far distance for him to fly or glide," says Steffen. "But by the time a human runs down the ridge he is on and tries to make his way silently up the next ridge, an hour might have passed. And the gobbler is either with hens or gone off who knows where. Tidewater hunters obviously don't have to deal with this problem."

But these flatland sportsmen do, of course, have to cope with their own terrain challenges emphasizes Gary Norman.

"Although the terrain relief in the Tidewater region makes for easier foot travel, some obstacles may be more significant as swamp lands im-

pede travel, and streams are often wider and sometimes deeper," he says. "To compensate for some of these challenges, green-up generally comes earlier in the Tidewater Region so hunters can more easily move toward gobblers without being detected.

"In the Mountains in the early part of the season, the trees are generally bare of leaves so hunters need to be careful as they move towards gobbling birds as turkeys can see further without leaf cover. A Department study did reveal, however, that hen incubation was similar between the Mountain and Tidewater regions, so the earlier spring green-up did not apparently impact the timing of reproduction between the regions."

©Bruce Ingram

Whether you're in the lowlands of eastern Virginia or perched on top of a towering mountain, being adept with a variety of calls is a plus for any Virginia hunter.

Calling Tactics

Dave Steffen employs the term "calling to the terrain" when he speaks of calling tactics appropriate to the three regions. Interestingly, he may end up calling louder in the Mountains than in the Piedmont and louder in the Piedmont than in the Tidewater.

"Generally, things turn out better when a Virginia hunter can call less and not very loud," explains Steffen. "For example, the more hunting pressure there is or has been, the more conservatively I call.

"But, still, I may call loudest in the mountains. If I don't get a response after some initial softer calling from a side ridge into a cove, I'll often increase the volume hoping to raise a bird on the opposite ridge that may be some distance away. The reason why is that I don't want to have to walk down into that hollow and up the other side if I don't have to. It's also why I use a box more in the mountains because this call is usually best at making loud yelps.

"Boxes are great locator calls, too, especially for making the cutting sound. In less rugged and more hunter-friendly terrain, I prefer to cover the distance by hiking it, rather than let my calling do the walking."

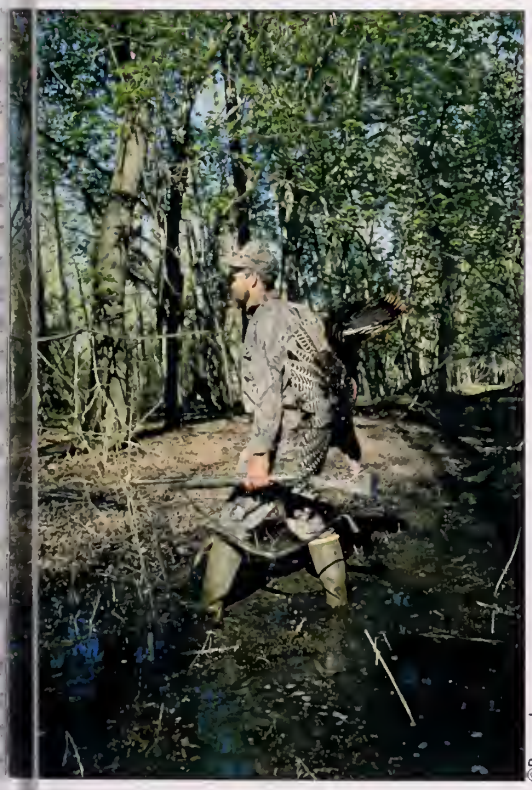
The biologist says that if he comes to an edge of the smaller coves or draws in the Piedmont, he will call softer in the more limited terrain than in the Mountains. One reason why is that he does not want to give his precise position away until he is ready to actually work a tom. If a bird responds to loud calling several hollows away, Steffen prefers not to make several complicated moves before he is able to set up.

Much of Tidewater's turkey terrain consists of swamps, sloughs, oxbows and expansive flats where swamp white oaks, water oaks and cypress thrive. Here, Steffen calls very softly because turkeys can often see for great distances, and he does not want a longbeard to pinpoint his position. Fortunately, even in the flatlands, Old Dominion hunters can use terrain features such as hummocks (also called rises) and the dense undergrowth to move in on a bird.

Food Sources

Many Virginia turkey hunters may be surprised at what one particular food source for turkeys is in the spring, and that source exists throughout the Commonwealth.

"Acorns are a common food item of gobblers even in the spring season," explains Norman. "Some earlier food studies showed acorns make up 20 percent of turkey diets in the spring. Regional variation in mast production is not uncommon in Virginia, so regional differences in habitat use may simply reflect differences



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Left: In Tidewater, hunters may have to slog through swamps occasionally if they are to be successful. Right: While hunting in the mountains of Craig County in late April, Dave Steffen finds some red oak acorns. According to Gary Norman, wildlife biologist and turkey expert, acorns comprise about 20 percent of a turkey's diet in the springtime.

in acorn availability in spring.

"Without acorns, turkeys oftentimes turn to old field and pastures for food items. As spring progresses, turkeys rely on succulent, emergent green vegetation for their vitamins and energy. Grasses, sedges and seeds make up a significant component of their spring diets. Oats and corn, where available, are also used by birds in the spring. Turkeys are omnivorous and have been found to feed on over 350 different plant items as well as many different animal items.

"Among the regions there is probably little difference in their diet and those differences may simply reflect annual availability of different food types. Mountain birds may be more attracted to spring seeps that feature early sprouting of green forage. In the Piedmont and Tidewater regions, birds may be attracted to fallow fields where corn or oats remain. Some birds are attracted to fields where they scratch through cattle droppings in search of corn."

©Ralph Hensley

©Ralph Hensley

Preseason scouting can often make the difference on that first day of the spring gobbler season.

Trip Accounts

This past spring, I had the pleasure of twice hunting with Dave Steffen, once on opening day in Franklin County's rolling hills country, and the second time, the last Friday in April in the Craig County mountains on the West Virginia line. Accounts from the two excursions show just how difficult calling in and killing a Virginia tom can be.

On the first outing, we hunted far apart with Dave hearing eight to 10 different gobblers and myself 10. Steffen called in a longbeard, but the bird was moving too fast for him to shoot, and he also decided to pass on several jakes. Meanwhile, I called in a tom right off the roost but the bird came in behind me. And from 10:25 until noon quitting time, I engaged in a duel with another mature bird without convincing him to come closer than 50 yards. Throughout the morning, we heard much gobbling.

On the Craig County outing both of us heard birds on the roost but never a peep afterwards. Why the difference in the gobbling rates from the two excursions—a good question without a good answer. Dave did share that Virginians on average go after spring gobblers for 14 days before they are successful, and veteran Virginia turkey call maker Jim Clay once told me that anyone who could average killing a turkey every four times out was in the expert category. Perhaps this article will help us a little on eventually becoming members of that category. □

Bruce Ingram is the author of the following books: *The James River Guide*, *The New River Guide*, and *The Shenandoah/Rappahannock Rivers Guide*. To obtain a copy, contact Ingram at P.O. Box 429, Fincastle, VA 24090.

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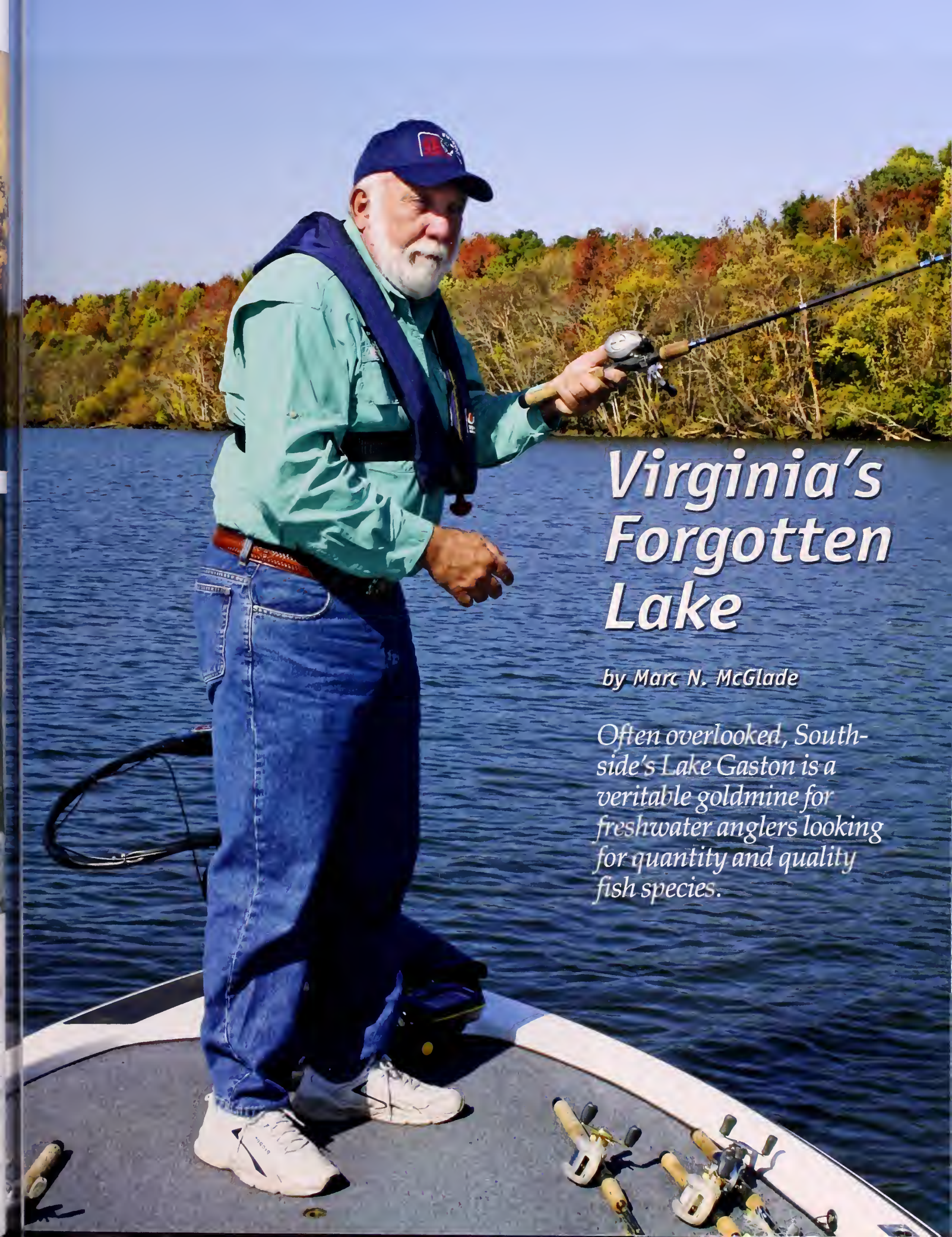


Virginia's Forgotten Lake

by Marc N. McGlade

Often overlooked, Southside's Lake Gaston is a veritable goldmine for freshwater anglers looking for quantity and quality fish species.

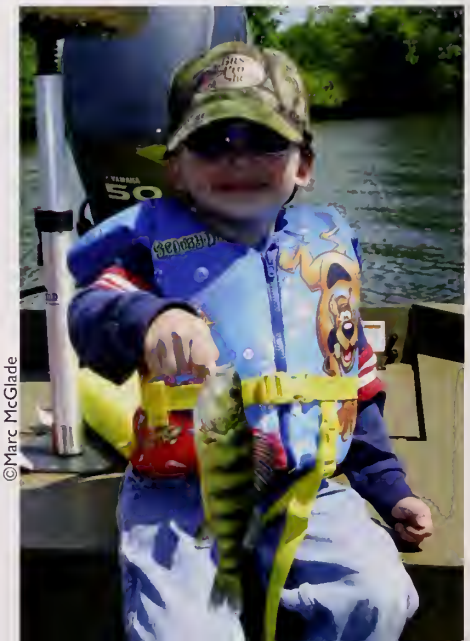
©Marc McGlade

Overshadowed by Buggs Island Lake to the west, Lake Gaston is a dynamo of a fishery for Commonwealth anglers looking to score on various fish species. This dammed-up stretch of Roanoke River, as it winds its way from John H. Kerr Dam down to Gaston Dam, covers 20,300 acres and is Virginia's third-largest lake next to massive Buggs Island Lake and Smith Mountain Lake. Lake Gaston is 34 miles long and contains 350 miles of shoreline.

Although Virginia and North Carolina share claim to the Southside prize, North Carolina takes the lead when fisheries management is concerned. Kirk Rundle, a fisheries biologist from North Carolina Wildlife Resources Commission (NCWRC), keeps tight tabs on Lake Gaston.

"Lake Gaston is operated by Dominion Power," Rundle says. "It was completed in 1963 and is used for hydropower production, flood control, water supply and recreation. The lake has a maximum depth of 95 feet and a mean depth of 19 feet. Water levels are very stable, and are maintained at 199.5 feet above mean sea level and rarely fluctuate more than 0.5 feet.

"From a fisheries management perspective, NCWRC does the majority of management at Lake Gaston, while the Virginia Department of Game and Inland Fisheries (VDGIF) does the majority of management at Kerr Reservoir (Buggs Island). This is a cooperative agreement because both lakes have a portion of their waters in both states. This is not a definite rule, and both agencies assist with fisheries management on both lakes at various times."



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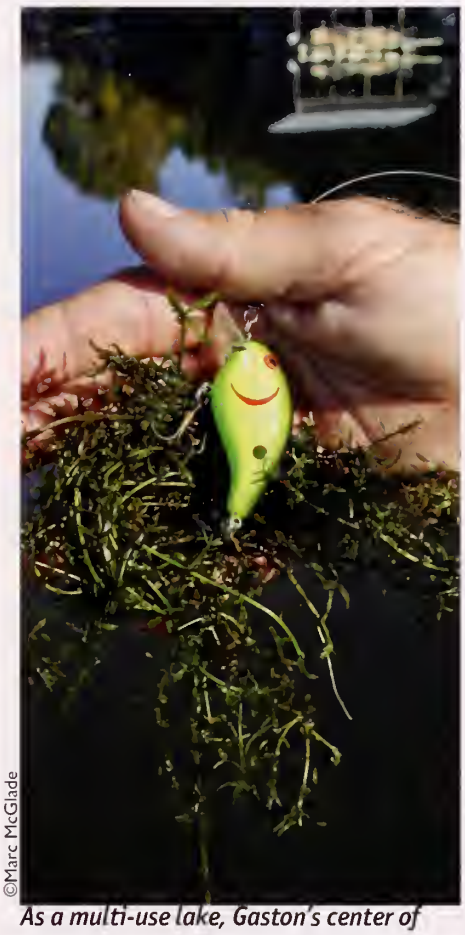
Seasoned angler and fishing guide Roger Jones (previous page) and newcomer Justin McGlade (below), the author's son, enjoy Lake Gaston's great fishing and scenic beauty.

Facilities

Rundle says several campgrounds and marinas dot the scenic shoreline surrounding the lake. Americamps Lake Gaston, near Holly Grove Creek in Mecklenburg County, Va., is popular for camping, with facilities for campers and tents and is open year-round. Numerous public boating access areas surround the lake, as well.

While the biologist says Gaston has limited opportunities for anglers wishing to fish from the bank, there is excitement regarding the current work in progress.

"Numerous projects are in the development process," he says. "This includes the development of five bank-fishing sites, the addition of several water-to-land recreational areas and day-use areas and upgrades to existing recreational areas. Some of the current projects, which will be available to the public in 2007, include a bank-fishing area at the north end of Gaston Dam (Northampton County, N.C.); a bank-fishing area at the Gaston Dam tailrace (Halifax County, N.C.); a bank-fishing area at Salmon's Landing on Big Stonehouse Creek (Warren County, N.C.); a water-to-land recreation area near the Nocarva peninsula that will have a bank-fishing area; and a bank-fishing area on Miles Creek near the intersection of Route 1 and Redlawn Road (Mecklenburg County, Va.). By the end of 2008, the existing recreation area at Gaston Dam will be improved with the addition of picnic tables and shelters, a swimming area with changing rooms and improvements to the fishing pier. Additionally, there is the U.S. Army Corps of Engineers' fishing platform at the base of John H. Kerr Dam, which provides excellent fishing opportunities and is open to the public."



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As a multi-use lake, Gaston's center of attention the last few years has been on aquatic grasses. User groups and biologists are working together to forge a solution that all parties can embrace. Below: Lake Gaston is a scenic lake offering anglers and other outdoor enthusiasts plenty of reasons to visit this Southside gem.

Getting Grassy

There are times when landowners and anglers do not see eye to eye at recreational lakes. Such is the case with aquatic grasses and weeds. Anglers love it for the ecology, food web and cover provided to predator fish, but waterfront landowners curse its existence because it can make boat navigation difficult in the very area they call home. Grasses and weeds can tightly wrap themselves around propellers and become wedged in jet intake systems, driving the boat owner mad. The flip side is that it can aid in the growth and abundance of fat largemouth bass and other warm-water species.

"Aquatic weed problems at Lake Gaston have been increasing since the first report of Brazilian elodea *(Egaria densa)* in 1982," Rundle states. "Since the mid-1990s, hydrilla *(Hydrilla verticillata)* has persisted at approximately 15 percent of the lake's surface area, and it is considered the most problematic species of aquatic vegetation. Various groups have been formed to deal with solutions to the aquatic vegetation problem."

Rundle acknowledges there is no easy solution. Bass Anglers Sportsman Society, reacting to concerns of controlling hydrilla with grass carp, convened a meeting of stakeholders in December 2004. The Lake Gaston Stakeholders Board was formed and is composed of one voting representative for each of various interest groups (homeowners, anglers, boaters, tourism and business councils, a power company and local, state and federal government agencies). A key goal, Rundle explains, was to deal with the management (not elimination) of hydrilla, foster communication and develop an aquatic vegetation management plan. In 1985, the Lake Gaston Weed Control Council formed to deal with Brazilian elodea.

"This is the primary governing body and is composed of three members from each of the five lake counties," Rundle says. "Additionally, the Weed Control Council created the Lake Gaston Task Force in 1991 to provide technical expertise and guidance in weed control. The Task Force included members from Dominion Power, NCWRC, VDGIF, U.S. Army Corps of Engineers, N.C. Division of Environmental Health, N.C. Division of Water Resources and N.C. State. This group has since evolved into what we now call the Technical Advisory Group (TAG), whose role is to meet at least once a year to develop strategies for long- term and adaptive management of aquatic vegetation at Lake Gaston. The TAG is neutral and just makes recommendations. How-

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ever, the overall process—which has been agreed upon by the Stakeholders Board—is that TAG advises the Stakeholders Board, who in turn advises the Weed Control Council on how limited funds should be spent for managing vegetation."

Surveys conducted by N.C. State in 1985 revealed 200 acres of Brazilian elodea and 12 acres of hydrilla. Rundle says a winter drawdown was conducted from December 1987 to March 1988, which was successful at eliminating the Brazilian elodea, yet seemed to have stimulatory effects on the hydrilla, which increased its coverage to 429 acres by 1991.

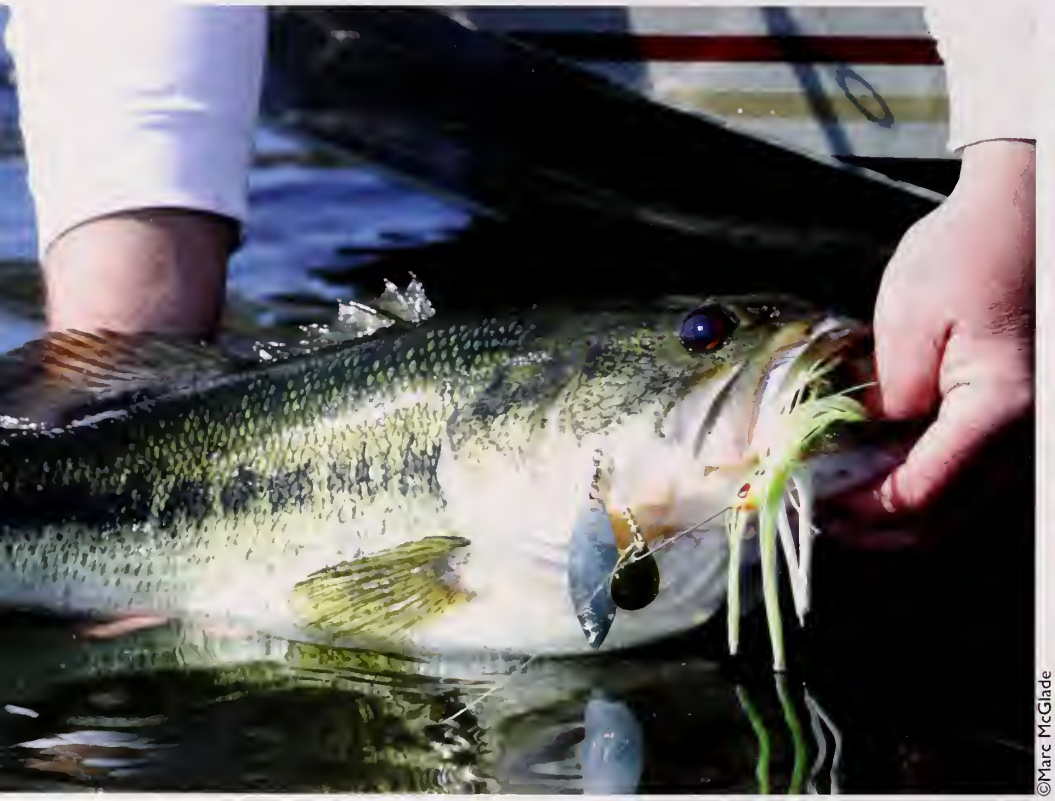
By 1996, hydrilla had increased to 3,102 acres. As a method of control, NCWRC and VDGIF permitted the stocking of sterile grass carp for each year that carp were stocked. Although the two agencies do not actually stock the grass carp themselves, they consult with each other to ensure they are on the same page. Rundle says VDGIF and NCWRC allow only triploid or sterile grass carp to be stocked anywhere in either state.

In spite of treatments, hydrilla has remained at approximately 3,500 acres (or about 17 percent of the lake surface area) since the mid-1990s. Recently, the U.S. Army Corps of Engineers began researching the most effective use of chemical and biological vegetation treatments, along with trying to establish founder colonies of native vegetation, which involved placing cages (approximately 4 feet in diameter) in specific coves and planting native vegetation (pondweeds and tape grass) within the cages to protect native plants. All parties involved hope these native plants, once established, will be able to replace hydrilla.

"From a fisheries and wildlife perspective, an intermediate level of aquatic vegetation is ideal," the biologist says. "Aquatic vegetation anchors bottom sediments, removes suspended particles and nutrients, provides spawning habitat, cover and food resources. Popular sport fish populations such as largemouth bass and crappie are doing well at Lake Gaston. Although grass carp are an economical means of controlling certain types of aquatic vegetation, we have to be aware of the consequences of stocking too many, and only use them as one of several tools and not the magic bullet."

Vic DiCenzo, a fisheries biologist with VDGIF's Farmville office, manages fisheries across the southern Piedmont of the Commonwealth. He says regarding vegetation, VDGIF is coordinating a grass carp population characteristics study, which is one phase of the U.S. Army Corps of Engineers' study.

"Our part focuses on the use of skilled bow-fishers to collect grass carp so we can estimate size structure, age and growth, mortality and immigration," DiCenzo explains. "Without these basic data, use of grass carp as a management tool at Lake Gaston is based as much on guess work as it is the dynamics of the population. VDGIF's participation in this study has freed up significant money to allow for radio tracking of grass carp to better understand their movements in the lake."



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Left: Largemouth bass are Virginia's most sought after game fish. Fortunately for anglers, Lake Gaston is chock-full of them. Above: Largemouth bass are not the only fish that attract anglers. Healthy numbers of redbreast and redear sunfish, in addition to bluegill, can be easily located throughout the lake.

Gaston vs. Buggs

Not only are Buggs Island Lake and Lake Gaston in close proximity to one another, they also share the same river system: the fish-rich Roanoke River. Rundle says both lakes have similar fishery populations, although three key differences include a striped bass population that cannot reproduce in Lake Gaston; Lake Gaston has a much greater level of development (especially boat docks) when compared to Buggs Island; and sprawling Buggs Island does not have the level of aquatic vegetation problems that Lake Gaston faces.

Creels

Fishery Information Management Systems conducted the most recent creel survey at Lake Gaston from February 1, 1996, to January 31, 1997. The survey delineated four geographical areas including the Buggs Island tail water (the base of John H. Kerr Dam to US 1 bridge), Lake Gaston (from US 1 bridge to Gaston Dam), Roanoke Rapids Lake and the Roanoke River (from the base of Roanoke Rapids Dam to US 258 bridge). Angling and non-angling water-based recreational users were interviewed during randomly selected periods. Rundle says angling effort represented 26 percent of the total estimated recreational effort, with the majority of that occurring at Lake Gaston.

Although angling comprised only 26 percent of the total recreational effort, angler trip costs and willingness to spend comprised 67 percent of the total estimated value of all recreation. For the Lake Gaston portion of the survey, targeted effort was greatest (greater than 55 percent) for largemouth bass, whereas striped bass received the greatest targeted effort (64 percent) in the Buggs Island tailwater area.

Beginning in the summer of 2007, the NCWRC, with monetary assistance from Dominion Power, will conduct a yearlong creel survey at Lake Gaston. This will provide data on angler effort, catch and harvest by species, economic data and recreational use.

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Regulations and More Information

For questions regarding fishing regulations, creel limits or any other fishing-related inquiries, contact VDGIF at (804) 367-1000, or go online at www.dgif.virginia.gov. NCWRC also has fisheries information for Lake Gaston. Visit www.ncwildlife.org to learn more.

Virginia and North Carolina have a reciprocal license agreement so that either state's freshwater fishing license is legal regardless of the section of Lake Gaston that an angler desires to target.

The current largemouth bass regulation on Lake Gaston is five fish per day with a 14-inch minimum size limit, except that two fish may be less than the 14-inch minimum size limit.

Striped bass are regulated by a 20-inch minimum size and a four-fish daily creel limit. Walleye are regulated with an eight-fish daily creel limit with no minimum size limit. Crappie, white perch, yellow perch and sunfish (except largemouth bass) currently have no size or creel limits at Lake Gaston. Catfish have no size or creel limits at the lake, with the exception that blue catfish greater than 32 inches in length are limited to one fish per day, while blue catfish less than 32 inches have no daily creel limit. This blue catfish regulation pertains only to the Virginia portion of Lake Gaston and does not affect North Carolina waters.

Maps: GMCO Maps & Charts produces the Pro Series Map of Lake Gaston; contact them by phone at (888) 420-6277, by e-mail at gmco@adelphia.net or visit their Web site online at www.gmcomaps.com.

Fishing guides: Hook, Line and Sinker Guide Service, phone (800) 597-1708 or (804) 921-3340, e-mail lovtofish1@earthlink.net, Web site www.hooklineandsinkerguides.com.

Camping: Americamps Lake Gaston, phone (434) 636-2668, e-mail info@americampslakegaston.com, Web site www.americampslakegaston.com.

Boat access in Virginia: VDGIF boat ramp at US 1 (Steel Bridge Landing) on the main lake in Mecklenburg County; Poplar Creek Landing on Route 903 (near the Mecklenburg County-Brunswick County line); and Pea Hill Creek.

Boat access in North Carolina: NCWRC currently maintains Salmon's Landing on Big Stonehouse Creek in Warren County (SR 1371); Henrico Wildlife Access in Northampton County (SR 1214); and Summit Wildlife Access in Halifax County (SR 1482). Rundle says that plans are underway to build another public boat ramp on Hawtree Creek in Warren County.

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What's Biting?

According to Rundle, Lake Gaston supports a multi-species fishery consisting of largemouth bass, striped bass, black and white crappie, sunfish, channel catfish, blue catfish, white catfish, various bullhead cats, white perch, yellow perch and walleye. Open water forage fish such as alewife, blueback herring, gizzard shad and threadfin shad play an important role in Gaston's food web.

Stocking Programs

Currently, NCWRC stocks striped bass annually at Lake Gaston. The linesiders are based on a put-grow-and-take fishery and rely solely upon stocking to maintain their population. Rundle says it is a top priority to stock 10 stripers per acre, with a goal of stocking an additional 10 stripers per acre, depending on hatchery demands. This goal is normally met, resulting in 406,000 stocked striper fingerlings (1 to 2 inches) at several locations each year in June.

Walleye have been stocked at Lake Gaston by NCWRC and VDGIF since 1978. Recent electrofishing surveys of walleye during their spawning migration indicated numbers have been increasing and limited natural reproduction is occurring, but annual stocking may be necessary to maintain the fishery.

DiCenzo says the NCWRC requested VDGIF suspend stocking walleye in 2003 so they could determine the extent, if any, of natural reproduction at Gaston.

"It's difficult to determine natural reproduction since 2003, based on the limited catch of walleye less than age 3 with electrofishing methods currently employed," Rundle explains. "Additionally, we were not able to sample in 2006 due to low flows. The level of walleye exploitation will become more apparent during the 2007 creel survey."

All other popular fish species targeted by anglers at Lake Gaston—along with forage fish species—naturally reproduce and are self-sustaining. Habitat protection is the key to protecting and maintaining these fishery populations, the biologist says.

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Lake Gaston is quickly gaining a reputation as a striper hotspot thanks to the regular stocking of striper fingerlings by the North Carolina Wildlife Resources Commission. Below: Baits that resemble shad, a main food source for stripers, is always a good choice.

Population Stats

Currently, NCWRC samples striped bass and walleye annually, and largemouth bass and crappie biennially at Lake Gaston. Other species such as sunfish, catfish and white perch are generally not targeted through routine sampling.

"However," Rundle says, "as these species are incidentally captured, data are recorded and applied to traditional fishery population metrics. This can help us indirectly monitor the overall health of these populations and establish regulations, if necessary."

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Rundle says based on limited data there are an abundant number of channel and blue catfish with a good percentage of large fish. White perch have shown an increased frequency with many fish weighing more than 1 pound. He indicates healthy numbers of bluegill *(Lepomis macrochirus)*, redbreast sunfish *(Lepomis auritus)*, and redear sunfish *(Lepomis microlophus)* exist. Redears are the best bet for large (close to 1 pound) sunfish angling opportunities at Lake Gaston.

NCWRC monitors striped bass each fall with gill nets. Data collected are used to assess striped bass populations using standard stock assessment techniques to evaluate stocking rates and determine the overall

health of the striped bass fishery. Data collected in the most recent sample (fall 2005) indicated excellent growth rates with striped bass reaching harvestable size (20 inches) during their second year, according to Rundle. Stripers sampled ranged in length from 9 to 31 inches. Weights ranged from under a pound to more than 10 pounds. Fifty-eight percent of striped bass sampled were greater than the minimum size limit. Striped bass sampled that are approximately 12 inches or smaller tend to indicate good survival of stocked striped bass.

"The abundance of smaller striped bass sampled in 2005 should translate into good success for moderate-sized striped bass in the next few years," explains Rundle. "Although it's the exception, every year striped bass greater than 20 pounds are caught in Lake Gaston."

During the winter months, stripers are scattered throughout the lake following schools of baitfish, but if Rundle had to zero in on a few locations he would concentrate on the mouths of the larger creeks, such as Sixpound, Hubquarter, Stonehouse, Pea Hill or Lees where large concentrations of baitfish gather.

These areas have produced fish for years and will continue to do so, he claims. As spring approaches, stripers move up the lake as well as into large creeks trying to spawn-unsuccessfully. The base of John H. Kerr Dam is usually the productive spot in late March, April and May. Stripers tend to pile up there as they are not able to go any farther and often find a large amount of baitfish present at that time. Rundle recommends angling from the US 1 bridge to the dam for springtime stripers.

"In the summer you're liable to find them anywhere throughout the lake, but don't depend on schools of baitfish to be a factor in locating them," he says.

Since the Kerr Dam turbines have been vented to increase oxygen, a few more fish summer below the dam and find some refuge, but conditions still can be less than ideal. As fall approaches and the temperature starts to decline, the activity level of stripers picks up. Rundle recommends looking for schools of baitfish in creeks as an indicator of where the linesiders may be lurking. He advises anglers to fish the mid-lake section near the river channel.

Rundle says the largemouth bass fishery at Lake Gaston is self-sustaining. NCWRC's objective is to monitor adult populations through spring shoreline electrofishing every other year.

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If you're a catfish aficionado, Lake Gaston is the place to go. Fisheries biologists indicate that blue catfish are very prolific and the key to attracting their attention is using live bait, such as shad.

"During our most recent sample (spring 2006), a total of 346 largemouth bass were sampled at Lake Gaston, ranging in length from 3 to 22 inches, with the largest fish weighing just under 7 pounds," he says. "We conducted electrofishing for approximately 7.2 hours for a catch per unit of effort of 48.1 largemouth bass per hour. Largemouth bass relative weights for Lake Gaston were approaching ideal levels, indicating healthy fish with an abundance of forage. While no stomach contents were collected, the primary forage for largemouth bass most likely includes shad, sunfish species and minnows."

Approximately 30 percent of the largemouth bass sampled were greater than 14 inches in length and approximately 15 percent were greater than 2 pounds. The biologists also sampled several 4- to 6-pound fish.

The most productive areas Rundle and his colleagues encountered for larger fish were many of the smaller coves and the main lake between Lizard Creek and Pea Hill Creek. Other good locations included Songbird Creek and Sixpound Creek. He

explains that none of their sampling areas was noted as being exceptionally poor. Given that, Rundle thinks decent largemouth bass fishing exists throughout the lake and he would focus more on techniques than spots.

The crappie fishery at Lake Gaston is also self-sustaining, with the overwhelming majority of crappie sampled being black crappie *(Pomoxis nigromaculatus)* versus white crappie *(Pomoxis annularis)*.

"Our objective is to monitor the crappie fishery at Lake Gaston by sampling every other year (in the fall) by setting trap nets over night," he says. "The goal of a quality crappie fishery is maintained through habitat protection and adjusting regulations as necessary. During our most recent sampling (fall 2005), we collected a total of 216 black crappie over 3 nights, with 12 trap nets set each night for a total of 36 net-nights and a total catch per unit effort of 6.0 fish per net-night."

Crappie ranged in length from 7 to 13.5 inches, with the largest fish weighing close to 2 pounds. Catch rates were greater than previous samples from Lake Gaston. Additionally, fish as old as age 5 were sampled, with excellent growth rates surpassing some of the more notable

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Lake Gaston is Virginia's third largest lake and can handle most any size boat. There are several boat landings surrounding the lake on both the Virginia and North Carolina sides.

Piedmont reservoirs. Most crappie reached 8 inches in length during their second year. Although crappie tend to be cyclic in nature, currently Lake Gaston appears to be an excellent place to catch healthy, quality-size crappie.

Currently, NCWRC monitors walleye in Lake Gaston through annual winter, nighttime electrofishing below John H. Kerr Dam. The last sample for walleye at Lake Gaston was completed during the winter of 2005, in which 59 fish ranged in length from 17 to 24 inches, with the largest fish weighing just less than 6 pounds.

Additionally, a tagging study of 500 adult walleye was initiated by the NCWRC in 2004 to determine the general magnitude, timing and location of the walleye catch and harvest. Walleye were tagged in March 2004, and from April 2004 to October 2005, anglers submitted tags from captured fish and completed surveys about their Lake Gaston walleye fishing experience. Recent spring electrofishing surveys indicated that walleye are reproducing in the lake. This study allowed biologists to assess if reproduction is sufficient to sustain the walleye fishery. This study provided information on the walleye fishery that will be useful in the design of future studies, including the upcoming creel survey.

As you can easily see, if Lake Gaston is not on your radar screen this year, it needs to be! □

Marc N. McGlade is a writer and photographer from Midlothian. Marc has been a regular contributor to Virginia Wildlife since 1998, and is an avid angler who travels throughout Virginia and other parts of the South.

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Jamestown's 400th Birthday Celebration

Meet Virginia

"Meet Virginia" as we travel throughout the Old Dominion on a series of picture perfect adventures.

story by Megan Mckinley
photos ©Dwight Dyke

It is hard to believe that 400 years have passed since Captain Christopher Newport and John Smith slipped from their ships into small rowboats and made landfall with 105 other men and boys on the peninsula at Jamestown. In reality, though, these 400 years are a blip on time's radar, an almost immeasurably small piece in the history of mankind, the planet, the universe. But how much has occurred since then! Certainly those men that created the first permanent settlement in North America could no more have imagined our world today than we can imagine theirs then. The nervousness and excitement, the awe and wonder those men must have felt as they neared shore is unfathomable by most that now inhabit the land they settled.

Over the weekend of May 11-13, Jamestown will celebrate its 400 year anniversary in grand fashion. At Historic Jamestowne, Jamestown Settlement and Anniversary Park, people will gather to witness commemorative festivities, music, cultural and heritage events, and to take part in interactive exhibits to pay homage to and simply remember those that carved out an existence here.

The multicultural event will not only commemorate those that settled Jamestown, but will also celebrate the people that already existed here when the men of the Virginia Company first arrived, the Chesapeake Indians. The event provides a wonderful opportunity for children and parents to witness and experience a piece of history. Perhaps through celebration and education one might capture a little feeling of the Old World and its ways. □

Megan Mckinley works as Director of Development for Blue Sky Fund, a foundation dedicated to providing outdoor opportunities for inner-city kids (http://blueskyfund.org).

Helpful Web Sites

http://www.jamestown2007.org
http://www.virtualjamestown.org.

Take hold of America's beginnings from the dawn of Colonial America in 1607 to the end of the American Revolution in 1781, with one visit to Jamestown Settlement and the Yorktown Victory Center. Jamestown Settlement and the Yorktown Victory Center are open 9 a.m. to 5 p.m. daily (until 6 p.m. June 15 through August 15). Jamestown Settlement is located on Route 31 South, adjacent to Historic Jamestowne, just 10 minutes from the restored area of Williamsburg. The Yorktown Victory Center is located on Route 1020, at the edge of Yorktown and near Yorktown Battlefield, just 20 minutes from the restored area of Williamsburg. For more information, call toll-free (888) 593-4682 or visit http://www.historyisfun.

Building a Foundation fo

Great things are happening at Greenbrier Intermediate School thanks to the dedication of students and teachers.

photos and story by Gail Brown

Both flowers and vegetables are grown using hydroponics. Growth rates are compared to plants grown in soil.

The name of the last Greenbrier hero to round third and slide into home, only to emerge grinning from ear to ear, mud from head to toe, has long been forgotten. But the day Greenbrier's infamous mud puddle, always irresistible to young athletes lost in their moment of schoolyard glory, came under the scrutiny of John Sammons, Karen Arnett, and Greenbrier's 2005-2006 FIRST LEGO® League team, is a day destined for Greenbrier history.

Long the bane of hard-working teachers and custodians alike, the puddle's days were numbered when the FIRST LEGO® League team of fifth graders accepted the international challenge to first investigate activities that degrade our oceans' health and then develop a plan to help solve the problems they identified. Greenbrier students chose to study the effects of pollutants released into our waterways through our storm water drains, and further decided to work to improve that very concern on their own school grounds. And when Sammons, Arnett and the fifth grade students made up their minds to help solve the environmental challenges plaguing their playground ballgames, it could be predicted that great things would happen at Greenbrier.

At the start of their project the students met with experts in the field to learn specifics about how pollutants affect the watershed, and also what everyone can do in their own community to help address this issue. Student research ultimately resulted in the establishment of a schoolyard rain garden in the area where the puddles once ruled. The wetland they planted now slows the rapid runoff and helps to filter out sediments and nitrates before they enter the storm drain.

The children broke ground for the rain garden last spring and kept the entire school informed about the project by making public service announcements on their in-house television network, and by creating and placing educational posters and door-handle information tags around the school. Buttons and stickers were also designed to promote

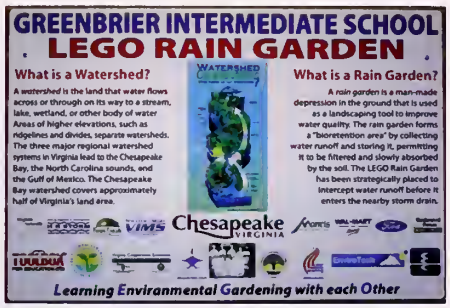
a Cleaner Environment

awareness of the damage caused by sediment and pollutants in areas where runoff remains unchecked. An educational skit the group created was performed many times, for such groups as the YMCA after-school program, the Chesapeake Public Schools Lead Science Teachers, and for the Hampton Roads Storm Management Group.

The students' hard work resulted in recognition for the school in regional and state LEGO® competitions and a visit from Philippe Pierre Cousteau! More importantly, the project provided an opportunity for the students to educate their community as to what each of us can do to help reduce sediment and nitrates entering our watershed unchecked. Learning how our actions impact our most important natural resource—water—empowered the team to help control this environmental problem on their school grounds and help protect the health of the Chesapeake Bay and the oceans of the world.

At Greenbrier, students and staff have a history of working together to promote environmental education. Their courtyard, once empty and neglected, now boasts a simulated river ecosystem and dry riverbed, as well as habitat areas (with seating) for classes wanting to learn about plants, soil, birds and insects by studying and interacting with living creatures in a natural environment.

Even the hallways leading into the courtyard, transformed by art teacher Tamara Jones and her students when they painted murals of nature scenes on the walls, now serve as learning centers—in this case as



Above: Planting a rain garden helps the environment. Learning to garden has many benefits for the students, too. Left: Support from environmental organizations and business partners is key to success.

mini-labs for Greenbrier's hydroponics program. Here, students investigate the different methods of plant propagation and observe and compare growth records for plants grown in soil versus the hydroponics system. Grant money from the National Gardening Association's Hooked on Hydroponics Award provided over $1,000 worth of equipment to set up the hydroponics lab. Always recycling, an old computer cart and a homemade light stand are used to support a 400-watt halide grow light. The students have grown both flowers and vegetables with hydroponics. By learning different ways of accomplishing the same goals, students experience the power and intricacies of

Above left: Informative posters help educate everyone about hydroponics.
Far left: Clay, formed into pellets and fired in kilns at 1200°C, becomes a porous growing medium.
Bottom left: Adult friends and teachers enjoy time in the courtyard, too. John Sammons stands on the back row, second from right.

A Meaningful Watershed Educational Experience

The Chesapeake 2000 Agreement commits Virginia's schools to provide all students with "a meaningful Bay and stream outdoor experience before graduation from high school." Parents want their kids to have them and educators want to provide them, but what exactly are "meaningful bay experiences" anyway? For a detailed explanation of these eight criteria, just go to www.vanaturally.com. For a quick guide, read on and join the effort to provide all of our children with experiences that will help them learn why we all must work together to protect the natural resources of our Commonwealth, VIRGINIA.

A meaningful watershed experience:

Views the watershed as a system; air quality, runoff in distant streams, and proactive efforts by all of us affect what happens to our Bay. It is...

Investigative, project oriented, and integrated into all curricula; meaningful watershed experiences allow students to use technology to process data and historical records as they study the culture, history, and issues relating to our Bay. It is...

Richly structured, designed with sound educational practices in mind; experiences include a preparation phase, an action phase, and a reflection phase, and it...

Gets all students involved—no one, especially the administration and staff—should be left inside. Activities are...

Integral and part of the school system's total curriculum; experiences should be integrated across all curricula, based on Virginia's Standards of Learning, and never seen as an add-on activity. Educators should include...

Natural resource personnel from a variety of agencies, as their expertise helps educators support students in their investigative research. They serve as role models for students considering careers in stewardship of the environment. Experiences...

Involve reaching out to the community to share the results of all environmental projects. Families, classmates and appropriate environmental agencies all benefit from the efforts of our young naturalists. Meaningful watershed...

Activities are sustained throughout the year and, while methods and activities may change over time, efforts to include everyone in the goal of protecting our Bay must continue forever.

Help support your school's efforts to provide "Meaningful Educational Watershed Experiences" for all children.

Above: Birds never go hungry at Greenbrier where filling feeders is a privilege and a responsibility.
Below: SECRET stands for: "Studying the Environmental Characteristics of a River Ecosystem Together!"

nature while they learn to think creatively.

How did all of these interactive learning centers come about? Why are these challenging projects attempted when there is so much to do *inside* today's classrooms? And who is the catalyst with the dedication and exuberance to motivate parents, staff and community businesses into supporting these innovative projects? Just ask Principal Colleen Leary and the enthusiastic kids at Greenbrier Intermediate and they will tell you—it's Mr. Sammons, their technology integration specialist and former fourth grade teacher. More a stu-

Above left: Parent volunteers worked many hours to build this river system. Here students observe insects, feed the koi, and enjoy watching birds. Above: Can Principal Leary (left) dig, plant and stay clean?

Above: Attention to details, following procedures, and documenting results are important steps when monitoring water quality.

dious Clark Kent than powerful Superman (although he did spend two weeks hauling scallops, sunrise to sunset, as part of the NOAA Teacher at Sea program), in his quiet and unassuming way Sammons helps transform Greenbrier into an educational setting where students take control of their own education and set high social and educational goals.

The accomplishments of the staff and students at Greenbrier are wide-reaching and numerous, but what is most astounding is that they were able to fund their environmental initiatives without taking any money from other school programs. Sammons sought and received financial support from such organizations as Lowe's Charitable Foundation/Outdoor Classroom Program, Virginia Naturally Classroom Grants, the Hampton Roads Planning District Commission, the National Gardening Association and Hydroponics Merchants Association, the Ford Motor Company, Wild Birds Unlimited, and numerous other donors, all willing to help these young naturalists.

Virginia Naturally Schools work to provide students with *Meaningful Educational Watershed Experiences*, one of the goals delineated by the Chesapeake 2000 Agreement. The Agreement and Business Plan, designed to restore the health of the Chesapeake Bay, includes guidelines for schools wanting to help. Greenbrier's outdoor classrooms, dedication to integrating environmental education across all curricula, teacher training programs, wetland's project, and learning centers promote positive behavioral changes through education. Greenbrier's staff and administration's hard work and success as leaders in promoting good stewardship of our natural resources make Greenbrier an exemplary example of a Virginia Naturally School. □

Gail Brown is a member of the Board of Directors of Friends of Chesterfield's Riverfront. She is a lifelong learner and educator, and her teaching and administrative experiences in grades K-12 have taught her that project-based environmental programs teach science standards, promote core values, and provide exciting educational experiences for the entire community.

Swallows tend to be daytime travelers, stopping to rest at traditional migration points as they journey to their breeding grounds. Most meander northward from South America by first flying westward to Central America and up through Mexico. While a few may make a direct northerly flight across the Gulf, most of them follow the coastline around the western shore of the Gulf of Mexico, making a big semi-circle by the time they reach Louisiana. They may fly about 2,000 miles farther than birds that fly straight across the Gulf!

They travel with much diving, swooping and circling, but all the while moving on toward their breeding grounds, feeding as they go. Occasionally they will stop to rest along rivers, lakes and marshes. One of the more unique things about our swallows is that each utilizes a different type of nest, built in different types of habitat.

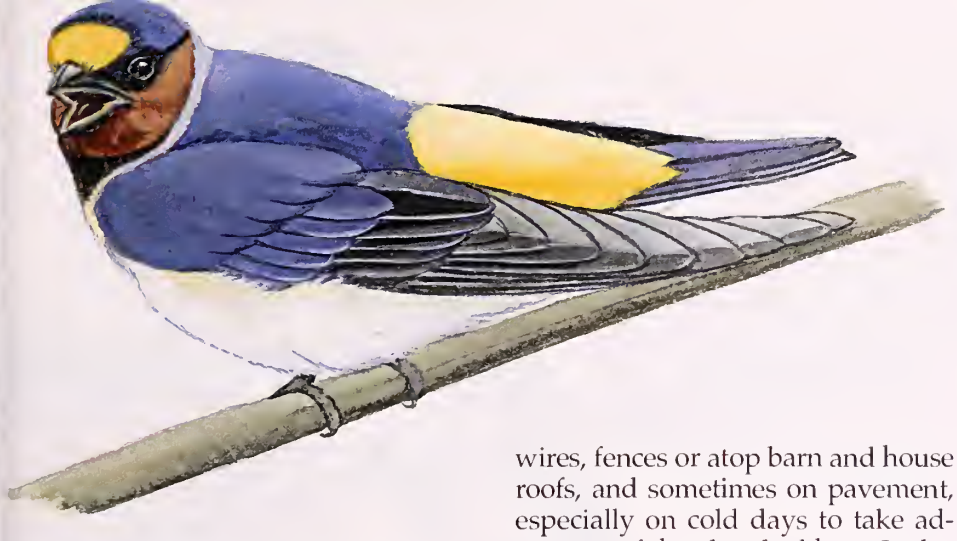
Barn swallows are the most common of our swallows. Their forked tail gives rise to the term "swallow-tailed."

Swallows of Vi

paintings and story by Spike Knuth

Virginia's swallows and martins are the aerial acrobats of the bird world, capable of flying with unbelievable precision and swiftness. Their arrival to Virginia is usually a good indication that warmer weather has become firmly entrenched. Swallows are almost exclusively insect eaters and they don't seem to appear until there's a good supply of flying insects available. Insects usually don't come out of hiding, or don't begin to hatch until temperatures warm up.

Probably the most common and easiest to identify is the barn swallow. The barn swallow's scientific name, *Hirundo rustica*, means "swallow of the country," and it is indeed that. This common bird of farms, fields and parks, is what most people



The cliff swallow has a square tail and nests in colonies on cliffs, the sides of dams, bridges, under building eaves, and in culverts.

picture in their minds when they hear the word "swallow."

It is a common sight over water or fields, skimming low in swooping, twisting and turning flight— powerful, agile fliers with deep, quick wing beats—capturing small, flying insects of all kinds, constantly uttering its bubbly, twittering calls. This is the swallow with the deeply forked tail, from which the term "swallow-

rginia

tailed" comes from. The upper-parts of the adult birds are a deep blue-black, with its forehead and throat chestnut-colored, and its breast a light cinnamon.

They will perch to rest in marshes on tall marsh vegetation, on utility wires, fences or atop barn and house roofs, and sometimes on pavement, especially on cold days to take advantage of the absorbed heat. It also comes to the ground to collect mud from small puddles of water, which they form into mud pellets and use as building material for their nests. Using grasses or bits of straw to strengthen the mud, they build in all types of man-made structures including barns, sheds, boat houses, bridges and culverts, as well as in caves and crevices of rocky cliffs. Swallows all have a particular liking for feathers, which they also mix in and then line the nest with.

Another common swallow is the tree swallow, which is the only swallow that habitually winters on mainland United States. It is about 6 inches long, although it may look longer at rest due to its folded wings extending beyond its tail. The upperparts of the tree swallow are irridescent greenish-blue, while its underparts are white. Its wing primaries and secondaries, as well as its tail feathers, are dusky black. The female is similar but a little duller, while young-of-the-year birds are brown or brownish-gray above and white below.

Tree swallows also show a decided preference to live in and around marshes, swamps, lakes, rivers and other wet areas. They fly with great precision and rapid wing beats, gliding with shoulders forward and wing tips down. Its wings appear to be a little wider than those of other swallows. Its call is a liquid twittering or chattering.

The tree swallow is another common swallow that is generally found around lakes, ponds or rivers. They nest in tree cavities, often in colonies, but will use man-made nest boxes.

Grow Wild!

In the wilds they nest in natural cavities in dead or dying trees or in abandoned woodpecker holes. Swallows are colony nesters if there's an abundance of nesting cavities available, but will take up residence as a lone nester at times. Tree swallows will take readily to a variety of man-made boxes and will often use nest boxes set out for bluebirds. The nest itself is made up of grasses lined with feathers.

The cliff swallow is similar to the barn swallow in color, but with a shorter, square tail, a whitish forehead, and pale brownish rump. They nest in colonies under building eaves, the sides of cliffs, on dams, in tunnels or large culverts, under bridges, and even on the sides of tall buildings. Its nest is made of mud and is gourd or bottle-shaped. Like barn swallows, they pick up mud in their mouths and roll it around forming pellets, which are plastered into place. They do not mix grass with the mud like the barn swallow.

The rough-winged swallow will not win any bird beauty contests. It is brown on its back, with a brownish-gray throat, fading to a white belly. Its name comes from a series of fine, recurved hooklets along the outer edge of its outside primary wing feathers, as if serrated. Its powerful wing beats are deeper than other swallows, and it tends to fly in a more direct path instead of twisting and turning, often duplicating the same path over and over, back and forth.

It uses a variety of nesting spots including burrows in dirt banks, cliff or tree cavities, or the nooks and crannies of tall structures such as dams or tall buildings. They are not communal nesters, choosing instead to nest alone or in scattered groups. While having a wide distribution throughout the United States it is not very numerous.

The bank swallow is brown above and on its sides with a definite brown band across its lower throat and chest, separating a white throat and belly. They nest in colonies, burrowing into sand, gravel or clay banks, lining the nest with feathers and grasses. Nesting colonies of bank swallows in eastern Virginia have diminished, but there are still some along the Potomac and James rivers and in the western mountain counties near larger rivers.

The largest of our swallows is the purple martin. Martins begin arriving about mid-to-late March, which is its common arrival time almost every year. The first birds to appear are referred to as "scouts." They are merely early-arriving males, preceding the females back to the same area they nested in last season—a trait that is common to many if not most species of songbirds.

Actually, adult male purple martins are more blue-black than purple. The later-arriving females are blue-black above, mottled gray on their

The bank swallow is easily identified by a brown band that crosses its lower throat and chest. They are often observed nesting in dirt or gravel banks along rivers and streams.

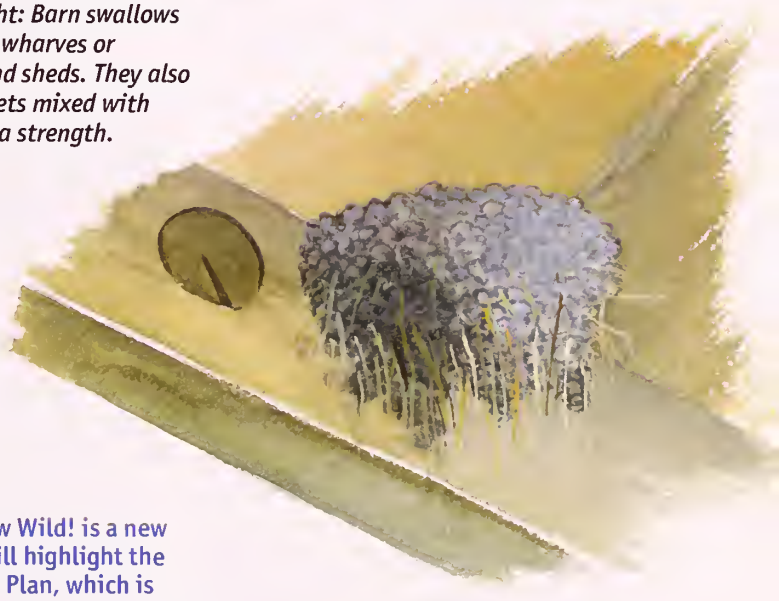
The rough-winged swallow is a species of greatest conservation concern. They are widely distributed but not numerous anywhere in their range. They have a habit of flying the same route back and forth, often described as a model train on tracks, as they feed on insects. They nest in dirt or gravel banks.

throats, with whitish bellies. When fledged later, the young will look similar to the females. Martins measure about 8 inches in length with wings extending, when folded, beyond a slightly forked tail.

Their natural habitat is open, grassy valleys or meadows and park-like areas, especially along rivers, lakeshores, marshes and coastal waters. Supposing it had no man-made structures to nest in, the martin might nest in holes or ledges on cliffs, or in the cavities of trees along lakes and rivers, and in swamps. The actual nest is formed from grasses and feathers, held together with a little mud. The fact that the martins consume huge quantities of pesky insects has made it a favorite companion of humans whether it is on the farm, in suburbia or even in the city. Its cheery, gurgling calls and aerial acrobatics can liven up the backyard in summer.

For more than 40 years Spike Knuth has been an avid naturalist and wildlife artist. Through his writings and illustrations Spike continues to share with others his love and fascination for our flora and fauna.

Above: Cliff swallows build a gourd-like nest of mud pellets. Right: Barn swallows nest in buildings, under wharves or bridges, boat houses, and sheds. They also build a nest of mud pellets mixed with straw or grasses for extra strength.



Be Wild! Live Wild! Grow Wild! is a new monthly feature that will highlight the Virginia Wildlife Action Plan, which is designed to unite natural resource agencies, sportsmen and women, conservationists and citizens in a common vision for the conservation of the Commonwealth's wildlife and habitats in which they live. To learn more or to become involved with this new exciting program, visit: bewildvirginia.org.

Left: Purple martins nest in multi-storied houses and prefer open ground so they have lots of flying room. Martins will also nest in gourds hung in a series either horizontally or vertically.

2007 Outdoor Calendar of Events

April 1: *Youth Turkey Hunt*, Fulfillment Farms, Co-Sponsored by Wildlife Foundation of Virginia, For more information call 804-367-0656 or go the Department's Web site at www.dgif.virginia.gov.

April 7: *Youth Spring Turkey Hunt*, statewide.

April 14–May 5 and May 7–May 19: Spring Gobbler season.

August 14: *Jack Randolph River Fest and Big Cat Quest*. Activities begin at 10:00 a.m. with final weigh-in at 5:00 p.m. Contact Jo Turek at 804-541-2353 or jturek@ci.hopewell.va.us.

April 21: *Quail Unlimited Covey Kids Event*, Educational Workshop at White Oak Preserve, Clarksville. For more information call 804-367-0656 or go the Department's Web site at www.dgif.virginia.gov.

April 28: *Fishing Workshop*, Oak Grove Lake Park, Chesapeake. For more information call 804-367-6778 or go the Department's Web site at www.dgif.virginia.gov.

May 19: *NWTF Family Outdoor Days*, Colonial Downs, New Kent. For more information call 804-367-0656 or go the Department's Web site at www.dgif.virginia.gov.

June 26: *Float Fishing the James*, James River State Park, Buckingham County. For more information call 804-367-6778 or go the Department's Web site at www.dgif.virginia.gov.

July 17: *Smallmouth Fishing Workshop*, Floating the New River at Bisset Park, Radford. For more information call 804-367-6778 or go the Department's Web site at www.dgif.virginia.gov. □

Trout Streams of Virginia: An Angler's Guide to the Blue Ridge Watershed,
4th Edition - Harry Slone
The Countryman Press, 2006
www.countrymanpress.com

When Roanoke native Harry Slone wrote the first edition of *Trout Streams of Virginia*, his goal was to create a comprehensive guide to Virginia trout waters, giving anglers the knowledge needed to explore the Old Dominion's piscatorial possibilities. For many fly anglers, Slone's user-friendly book quickly became a necessary piece of equipment.

In the years since Slone's first edition, the Department's trout program and its fisheries projects have evolved, and apart from these changes, there has been a steady increase in the number of pay-for-fish streams. Now anglers can benefit from the most up-to-date information available. From Big Run, to the waters of Shooting Creek, *Trout Streams of Virginia* is a solid, 184 page, fishing bible.

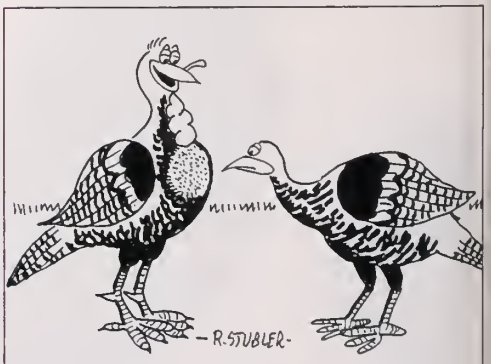
Harry Slone calls himself "a writer who fly-fishes, rather than a fly-fishing authority who writes." For two and a half years, he wrote an Internet column called "The Trout Professor" which required him to fish a different stream each week. The knowledge gleaned from these many excursions is reflected in the guide.

In the first chapter, Slone takes the time to introduce Virginia angling essentials: terrain, climate, fisheries management, line and leader preferences, licensing requirements and special regulations. He touches upon the ongoing problems of stream acidity, and reflects on an environmental inertia, which seems to have put a stranglehold on more and better efforts to reduce acid rain...an issue about which every angler should be concerned.

Each of the chapters following, adhere to a standard format, making it easy for the reader to quickly locate information:

- General introduction to a specific geographic area
- Stream Type
- USGS and DeLorme map references
- Access information
- Fly suggestions where applicable

Finally, Slone graces many of the chapters with his "Author's Notes." They serve to enrich the reader's experience of a given area, and display Slone's warm and welcoming writing style. □



I shave off my beard during hunting season then let it grow back.

Photo Tips

by Lynda Richardson

Spring Cleaning Your Image Sensor-Part 1

One of the scariest things about digital SLR cameras is cleaning the image sensor. The image sensor is like the film in a film camera. If dust adheres to the sensor, it will be recorded as a black speck and will show up on the final photograph.

If you have a digital camera that allows you to clean the image sensor, your camera will have a function in its menu called "sensor cleaning" or something similar. What this function does is lift the camera's mirror so the sensor is exposed allowing you to clean it. Something important to note here is that you must be certain you have plenty of battery power to keep the mirror up during cleaning or you could badly damage the shutter curtain or sensor if the mirror suddenly comes crashing down. Most high end SLR cameras will not engage the sensor cleaning function if battery power is low. Be on the safe side and always use fully charged batteries when cleaning the sensor.

The recommendation for cleaning an image sensor is to use a rubber blower without a brush on the end. A brush will scratch the sensor. I use the large Giottos "Rocket." (Check with your local camera shop or online.) The Rocket is a rubber bulb, shaped sort of like a rocket, with a long red tip. You can choose from several sizes of Rockets but the bigger it is the more air it can blow. You should NEVER use canned air (like Dust-Off) to clean your sensor as this can spray chemicals into the interior of your camera and mess everything up!

The first thing you should do before you clean your sensor is to grab your camera manual and read what it recommends. Generally, you remove your lens or body cap from the camera and hold it in one hand. Tilt the camera so that the opening faces downward and swirling dust particles can't fall into the opening. Do not get your face too close or talk while you are cleaning because even the moisture or spittle from your mouth can get on your sensor. Next, take your rubber blower and blow out the body opening thoroughly. Do not stick the tip of the blower too far into the opening or you could damage something. Once this area is free of dust, hair and so forth, then you can start on the sensor. Dial the menu of the camera to the sensor cleaning function and select it. The mirror will come up and expose the sensor. Now repeat what you just did to the opening of the camera and blow out the entire area as well as the sensor. Don't forget to keep the camera pointed downward and the tip of the blower out of the opening. Once you are done, put down the blower and turn off the camera so it will drop the mirror back into place and cover the sensor. You did it! If you still have dust, simply repeat the process.

In our next "Photo Tips" article we will talk about additional methods you can use to clean a particularly dirty image sensor sooooo, stay tuned and happy shooting! □

You are invited to submit one to five of your best images to "Image of the Month," Virginia Wildlife Magazine, P.O. Box 11104, (4010 West Broad Street), Richmond, VA, 23230-1104. Send original slides, high quality prints, or high res jpeg files on disk and include a self addressed, stamped envelope or other shipping method for return. Also, please include any pertinent information regarding how and where the image was captured, what camera, film and settings you used.

Image of the Month

Congratulations go to George W. Gibbs, of Salem, for his lovely photograph of a male bluebird perched in an apple tree in his yard. George captured this image using a Canon EOS 3 film camera and a big "honking" Canon 600mm lens. George used a very shallow depth-of-field of f4.0 to soften the branches around the bird bringing more attention to it. Beautiful photograph George!

On The Water

by Jim Crosby

Thoughts to Ponder Before Spring Launch

Spring is here and it's time to wet our hulls and fire off our engines to enjoy the new boating season right from the beginning.

Apologizing in advance, I would like to suggest that we temper our excitement of the coming of the spring boating season with just a little caution.

Unfortunately, it's usually the initial spring launch that reveals the systems and equipment that are in need of serious maintenance. May I suggest you do a comprehensive check of all your systems and equipment prior to that first day's launch? It could save your first day on the water and possibly your vessel.

Your first concern has to be the safety of your passengers and that means making certain that all your legally required systems and equipment are onboard and operational. Too many times it takes several trips to the water to get all that equipment you removed for the winter lay up back on board and checked for operational condition.

Seaworthy, recreational boating's damage avoidance magazine, has recently combed through the BoatUS insurance claims files to identify the reasons why inboard/outboard (I/O) powerboats sink.

An interesting fact discovered is that while outboard powerboats are similar in design to I/O's—and often made by the same manufacturer—the study found vastly different reasons why each accidentally sinks.

It is apparent that outboard powerboats tend to sink at the dock due to poor cockpit designs that trap water, but an I/O's weakest link is the delicate connection between the inboard engine and the outdrive unit, called bellows—you know the rubber boot that covers the universal joint used to connect the inboard engine's drive shaft to the outboard transmission and prop, as well as shift linkage and other equipment. A dry-rotted, torn or damaged bellow will allow the bilge to flood in seconds and over-come the dewatering pump's ability to cope with the flow. I have personally witnessed this happen and the vessel went down in a hurry.

Here are the top reasons why I/O's sink according to the report.

At The Dock:

#1. (44%): Leaking bellows. A surprising number were attributed to the small shift cable bellows.
#2. (23%): Failed below waterline fittings, hose clamps, and melted hoses as a result of overheating.
#3. (15%): Failed above waterline fittings. Heavy rains overwhelm cockpit scuppers.
#4. (11%): Poor docking arrangements: Boats or outdrives that snag on docks.
#5. (6%): Uninstalled drain plug.
#6. (1%): Miscellaneous, such as a cracked engine block.

While Underway:

#1. (36%): Struck a submerged object such as rock or logs.
#2. (24%): Failed below waterline fittings.
#3. (20%): Leaking bellows.
#4. (12%): Swamping.
#5. (8%): Miscellaneous.

As you can see, leaking bellows showed up in each list and therefore deserves a serious check—not that I don't suggest you consider all the reasons listed which could sink your boat and ruin your day on the water.

This list could serve as an outstanding guide while going over your boat prior to your first spring outing.

Swamping shows up on the list and deserves an analysis. Swamping is more of a problem for outboards than I/O's because most outboard vessels have a low cut transom that reduces freeboard to a minimum. Couple this with the very high power-to-weight ratio and you have a problem that really presents itself when you suddenly chop or increase power. A full throttle surge from dead in the water can stand a boat up on end to such a severe angle that water will swamp over the transom not to mention that you and your passengers will be suddenly thrown to the stern and possibly overboard.

The reverse of that is to suddenly chop power from a high speed and up on a plane. The vessel will suddenly squat in the water and allow it to flow over the low transom, as well as, throw everyone onboard forward risking personal injury and/or a dunking.

While you are skippering a vessel on the water, throttles should be adjusted with slow consistency and anything else should be clearly announced ahead of time to give all onboard an opportunity to take a firm hold.

Recreational boating is only fun when you are safe because an injury or mishap will take away all the joy!

RECIPES

by Joan Cone

Try These Mushroom Recipes

Now is the time to hunt wild mushrooms, especially morels here in Virginia. Be sure to have an expert guide you, as some wild mushrooms are deadly.

Morels are the most sought after. The edible morel is hollow from stem to crown. Its wrinkly exterior provides hiding places for dirt. These mushrooms require extra cleaning. All mushrooms should be cleaned with a damp paper towel or a special brush.

Today there are cultivated wild mushrooms found in your markets. Some of the more popular are shiitake, portabello, oyster and crimini. You can use these along with your morels.

Store mushrooms in the refrigerator in a container that allows them to breathe.

The following recipes show some of the many ways you can use mushrooms.

Recipes

Stuffed Mushrooms
Oyster and Portabello Stew
Wild Mushroom Pot Pies

Stuffed Mushrooms

20 medium mushrooms
3 tablespoons butter
2 tablespoons finely chopped onions
2 tablespoons finely chopped red peppers
14 Ritz Crackers, finely crushed (about ½ cup crumbs)
2 tablespoons grated Parmesan cheese
½ teaspoon Italian seasoning

Preheat oven to 400° F. Remove stems from mushrooms. Finely chop enough of the stems to measure ¼ cup; set aside. Cover and refrigerate remaining stems for other use. Melt butter in large skillet on medium heat. Add ¼ cup chopped mushroom stems, the onions and peppers. Cook and stir vegetables until tender. Stir in cracker crumbs, cheese and Italian seasoning. Stuff mushrooms until full. Place on ungreased baking sheet. Bake 15 minutes or until heated through. Makes 20 servings, 1 stuffed mushroom each.

Make-Ahead: These mushrooms can be stuffed several hours in advance. Cover and refrigerate until ready to serve. Uncover and bake at 400° F. for 20 minutes or until heated through.

Oyster and Portabella Stew

1 pint oysters with juices
4 tablespoons melted butter
2 tablespoons olive oil
2 cups finely diced potatoes
1 cup finely chopped white onion
1 cup finely chopped portabella mushroom
4 tablespoons flour
3 cups milk (room temperature)
2 tablespoons rosemary (fresh and finely chopped)
Salt and pepper to taste

Melt butter and olive oil in a soup pot or Dutch oven. On low to medium heat, sauté potatoes, onions and mushrooms until potatoes are softened and onions translucent. Slowly sprinkle the flour over the vegetables and stir until flour is smoothly blended into the vegetables. Gradually add milk to the mixture and stir on low to medium heat. (Mixture will gradually thicken). Add one pint of oysters with juices to the stew mixture and reduce heat. Sprinkle in rosemary and season with salt and pepper to taste. Let simmer, covered, on low heat for approximately 5 to 7 minutes. Serves 4.

Wild Mushroom Pot Pies

1 baguette
3 tablespoons butter or margarine
1 large sweet onion, sliced
¼ pound oyster mushrooms, sliced
¼ pound shiitake mushrooms, sliced
¼ pound morel mushrooms, sliced
Garlic powder to taste
1 can (14 ½-ounces) low sodium beef broth
¼ cup dry red table wine
½ cup water
2 tablespoons flour
Pepper to taste
¼ cup shredded Italian cheese blend
2 tablespoons chopped fresh parsley

Cut baguette into 4 (1-inch thick) slices and 8 (¼-inch thick) slices and place on a baking sheet. Reserve remaining baguette for another use. Bake bread in a 400° F. oven for 5 minutes or until toasted. Set aside.

Melt butter in a large skillet over medium heat. Add onion and cook, stirring often, for 20 minutes or until caramel colored. Add mushrooms and garlic and cook, stirring constantly, for 3 minutes. Stir in beef broth and wine; bring to a boil. Reduce heat and simmer, stirring occasionally, 20 minutes or until slightly thickened.

Stir together ½ cup water and flour until smooth. Stir flour mixture and pepper into mushroom mixture and cook, stirring constantly, 1 minute.

Place thick baguette slices in bottoms of 4 (8-ounce) custard cups or small ovenproof bowls. Spoon mushroom mixture evenly into cups. Top each with 2 baguette slices. Sprinkle evenly with cheese. Bake at 350° F. for 5 minutes or until cheese melts and sprinkle with parsley. Makes 4 servings. □

Virginia Nongame Wildlife Program

Celebrate the 26th Anniversary of Virginia's Nongame Wildlife Program by helping to support essential research and management of Virginia's native birds, fish and other nongame animals.

If you are due a tax refund from the Commonwealth of Virginia, you can contribute to the Virginia Nongame Wildlife Program by simply marking the appropriate place on this year's tax checkoff on the Virginia State Income Tax Form.

If you would like to make a cash donation directly to the Virginia Nongame Wildlife Program using a Visa or MasterCard, you can visit the Department's Web site or mail a check payable to: Virginia Nongame Program and mail it to Virginia Nongame Program, 4010 W. Broad St., Richmond, VA 23230-1104.

Remember, that this is the year that you can make a difference by helping to support the management of Virginia's wildlife.

Nongame Tax Checkoff Fund

For Virginia Wildlife subscription calls only 1-800-710-9369
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